



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,234	11/17/2008	Falko Abel	2003P01873WOUS	1781
46726	7590	12/27/2010	EXAMINER	
BSH HOME APPLIANCES CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 100 BOSCH BOULEVARD NEW BERN, NC 28562				PHAM, LEDA T
ART UNIT		PAPER NUMBER		
2834				
			NOTIFICATION DATE	DELIVERY MODE
			12/27/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

NBN-IntelProp@bshg.com

Office Action Summary	Application No.	Applicant(s)	
	10/581,234	ABEL ET AL.	
	Examiner	Art Unit	
	LEDA PHAM	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 18-27 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 18-27 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 02 June 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsman's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 06/02/06, 11/20/09
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 06/02/06, 11/20/09 is being considered by the examiner.

Response to Preliminary Amendment

2. Preliminary Amendment filed on 06/02/06 has been entered and made of record in the file.

Claims 1-17 are canceled, claims 18-27 are presented for examination.

Claim Objections

3. Claim 1 is objected to because of the following informalities: line 10 of claim 1, "the core" lack of antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai (JP 2003/088071 A) in view of Iles-Klumpner (US 7,230,359 B2).

Regarding claim 18, Sakai teaches an electric machine including a brushless DC motor (fig 1) comprising a stator (1) provided with current-carrying coils (3) and at least one partly magnetizable rotor (5a) which is provided with a plurality of permanent magnets (7) in the circumferential direction, each embedded in a magnet retainer (9) between the peripheral surface and shaft of the rotor such that in the radial direction, the permanent magnets (7) are completely encircled by the peripheral surface of the rotor (6), wherein the permanent magnets are arranged with their narrow sides in the circumferential direction, and wherein the stator (1) has a plurality of stator teeth (4) whose end surfaces of their tooth shoe adjacent to the rotor (5a) are constructed as flat and tangential to the circumferential surface of the rotor (6), wherein at the magnet retainer (9), material recesses (10) of the core extend axially inside the rotor (5a) laterally in the circumferential direction of the rotor in such a manner that the permanent magnet (7) protrudes into the material recesses (10, fig 2-3) at least with its axial edges adjacent to the peripheral surface of the rotor (6) so that the permanent magnet (7) is wider in the circumferential direction than its appurtenant pole shoe neck (6b) of the rotor (5a) and abuts against the pole shoe (6b) of the rotor (5a) with a partial width of its external surface and that the partial width corresponds to a tooth shoe width of a stator tooth in the circumferential direction (fig 1). However, Sakai does not teach the permanent magnets are rectangular shape.

Iles-Klumpner teaches an electric motor having permanent magnets (38) embed in a rotor (36) wherein the permanent magnets are rectangular shape to minimize cogging torque.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the magnet with rectangular shape as taught by Iles-Klumpner. Doing so would minimize cogging torque in a motor.

Regarding claim 19, Sakai teaches the material recesses (10) run parallel adjacent to the peripheral surface of the rotor (edge Cs1) with a wall thickness which is minimized such that the wall thickness can withstand centrifugal forces of the permanent magnet at the highest possible speed of the rotor (fig 2).

Regarding claim 20, Sakai teaches the material recesses (10) open perpendicularly on an outer surface of the permanent magnet (7) adjacent to the peripheral surface of the rotor (6) with which the permanent magnet abuts against the pole shoe of the rotor (fig 2).

Regarding claim 21, Sakai teaches the material recesses (10) have a rounded transition from a profile parallel to the peripheral surface of the rotor (6) to a profile perpendicular to the outer surface of the permanent magnet (7, fig 2).

Regarding claim 22, Sakai teaches lugs (not labeled) extended axially through the material recesses (10) are formed on the magnet retainer (9) for holding the permanent magnet (7, fig 2).

Regarding claim 23, Sakai teaches each stator tooth (4) carries turns of a single coil (3, fig 1).

Regarding claim 24, Sakai does not teach the electric machine is constructed with eight permanent magnets and twelve stator teeth. Iles-Klumpner teaches an electric motor having eight permanent magnet and twelve stator teeth (fig 2). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify electric motor having eight permanent magnet and twelve stator teeth as taught by Iles-Klumpner. Doing so would minimize cogging torque in a motor.

Regarding claim 25, Sakai teaches the permanent magnets (7) are magnetized parallel to their side surfaces facing the material recesses (10, fig 3).

Regarding claim 26, Sakai teaches the permanent magnets (7) contain at least one of ferrite, NdFeB and rare earths (ferrite, see abstract).

Regarding claim 27, Sakai does not teach the permanent magnets are the same length in the axial direction or longer than the rotor. Iles-Klumpner teaches an electric motor wherein the permanent magnets are the same length in the axial direction of the rotor (fig 1). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify electric motor with the permanent magnets are the same length in the axial direction of the rotor as taught by Iles-Klumpner. Doing so would minimize cogging torque in a motor.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEDA PHAM whose telephone number is 571-272-5806. The examiner can normally be reached on normally M-F (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen P. Leung can be reached on 571-272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/
Supervisory Patent Examiner, Art Unit 2834

/LEDA PHAM/
Examiner, Art Unit 2834